OAH Docket No. 12-2200-19046-1
Governor's Office Tracking No. AR081B

STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS

FOR THE MINNESOTA POLLUTION CONTROL AGENCY

In the Matter of Proposed Amendments to rules governing water quality: Minnesota Rules, Chapter 7050 (Water Quality Standards for Protection of Waters of the State); Addition of Minnesota Rules, Chapter 7053 (Effluent Limits and Treatment Requirements for Discharges to Waters of the State); Repeal of Minnesota Rules, Parts 7056.0010 to 7056.0040 (Classification for Use and Standards for Select Reaches of the Mississippi River and its Stream Tributaries); and Repeal of Minnesota Rules, parts 7065.0010 to 7065.0260 (Specific Effluent Limits for Select Watersheds)

REPORT OF THE ADMINISTRATIVE LAW JUDGE

Administrative Law Judge Steve M. Mihalchick conducted a series of hearings throughout Minnesota concerning these rules proposed by the Minnesota Pollution Control Agency (the "MPCA," "PCA," or "the Agency"). Hearings were conducted in St. Paul on August 29 and 30, Duluth on September 4, Brainerd on September 5, Detroit Lakes on September 6, Marshall on September 11, and Rochester on September 12, 2007. Approximately 24 members of the public attended the hearings in St. Paul, 14 in Duluth, 19 in Brainerd, 16 in Detroit Lakes, 21 in Marshall, and 22 in Rochester. Each hearing continued until everyone present had an opportunity to ask their questions and state their views on the proposed rules.

The hearing and this Report are part of a rulemaking process governed by the Minnesota Administrative Procedure Act.[1] The legislature has designed the rulemaking process to ensure that state agencies have met all the requirements that Minnesota law specifies for adopting rules. Those requirements include assurances that the proposed rules are necessary and reasonable and that any modifications that the agency made after the proposed rules were initially published do not result in their being substantially different from what the agency originally proposed. The rulemaking process also includes a hearing when a sufficient number of persons request one. The hearing is intended to allow the agency and the Administrative Law Judge reviewing the proposed rules to hear public comment regarding the impact of the proposed rules and what changes might be appropriate.

[1] Minn. Stat. §§ 14.131 through 14.20.

The members of the Agency's hearing panel, most of whom attended all the hearing sessions, and the subject areas they presented or answered questions regarding were:

David Maschwitz – Proposed amendments in general, history of their development, preparation of the proposed rule and author of portions of SONAR Book III. Proposed chronic standards for acetochlor and metolachlor, and proposed mercury and E. coli standards.

Mark Tomasek – Supervisor of Standards Unit.

Gerald Blaha – Proposed rule language. Proposed Class 3B to 3C change in default classification, update list of trout waters (Class 2A), addition of new Class 1 waters, changes to language associated with use classifications, and proposed new limited resource value waters (Class7) and author of portions of SONAR Book III

Angela Preimesberger – Proposed standards for mercury, acetochlor, metolachlor, benzene, and naphthalene and author of portions of SONAR Book III. Preparation of exhibit list.

Dann White - Proposed acute standards for acetochlor, metolachlor.

Joseph Zachmann, Minnesota Department of Agriculture (MDA) - Proposed standards for acetochlor and metolachlor, implementation of best management practices and costs.

Dan Stoddard, Minnesota Department of Agriculture - Proposed standards for acetochlor and metolachlor. MDA pesticide programs.

The Agency and the Administrative Law Judge received written comments on the proposed rules prior to the hearing. At the hearing, the initial deadline for filing written comment was set October 3, 2007, twenty calendar days after the last originally scheduled hearing, to allow interested persons and the Agency an opportunity to submit written comments. Following the initial comment period, the record remained open for an additional five business days, October 10, 2007, to allow interested persons and the Agency the opportunity to file a written response to the comments received during the initial period. Due to a change in the address of the Office of Administrative Hearings in late September, persons were required to have mailed comments post-marked by the due date. The last timely response was received and the hearing record was closed on October 12, 2007.[2]

[2] Pursuant to Minn. Stat. § 14.15, subd. 2, the Administrative Law Judge requested and was granted an extension to November 16, 2007, to complete this Report.

NOTICE

The Agency must make this Report available for review by anyone who wishes to review it for at least five working days before the Agency takes any further action to adopt final rules or to modify or withdraw the proposed rules. If the Agency makes changes in the rules, it must submit the rules, along with the complete hearing record, to the Chief Administrative Law Judge for a review of those changes before it may adopt the rules in final form.

After adopting the final version of the rules, the Agency must send the order adopting rules to the Administrative Law Judge. Provided that the Agency has taken all of the required steps to adopt the rule, the Office of Administrative Hearings will request certified copies of the rule from the Revisor of Statutes and file them with the Secretary of State.

Based upon all the testimony, exhibits, and written comments, the Administrative Law Judge makes the following:

FINDINGS OF FACT

Background and Nature of the Proposed Rules

1. The Agency is proposing to amend Minn. R. ch. 7050 and to establish a new rule, Minn. R. ch. 7053. In addition, the Agency is proposing to repeal two outdated rules, Minn. R. ch. 7056 and 7065.

2. The major proposed additions and revisions the Agency is proposing in this rulemaking are as follows:

a. The addition of eutrophication (phosphorus, chlorophyll-a and Secchi depth) standards for lakes, shallow lakes and reservoirs.

b. The extension of the current 1 mg/L phosphorus effluent limit to new or expanding dischargers that discharge more than 1,800 pounds of phosphorus per year.

c. Adoption of a fish tissue standard for mercury.

d. Adoption of Class 2 standards for acetochlor and metolachlor.

e. Adoption of revised Class 2 standards for benzene and naphthalene.

f. Adoption of *E. coli* to replace the Class 2 fecal coliform standard.

g. Change the default classification for industrial use from Class 3B to 3C, which will relax the industrial use chlorides and hardness standards for most surface waters.

h. Update lists of trout waters and Class 1 waters and make other improvements to classification sections.

i. Proposed adoption of 12 new limited resource value water segments.

j. Separate Minn. R. ch. 7050 into two rules, a revised Minn. R. ch. 7050 and a new Minn. R. ch. 7053.

k. Numerous changes to clarify language in Minn. R. ch. 7050 and 7053 without changing the meaning.

l. Eight major or substantive changes to rule language in Minn. R. ch. 7050.

m. Repeal of Minn. R. ch. 7056 and 7065.

n. Numerous housekeeping changes.[3]

3. The Agency is proposing to split Minn. R. ch. 7050 into two rules by moving some provisions in existing Minn. R. ch. 7050 into a proposed new rule, Minn. R. ch. 7053, such that:

a. The revised Minn. R. ch. 7050 will include the beneficial use classifications, numeric and narrative water quality standards, nondegradation, methods for determination of site-specific criteria and other provisions related to ambient water quality standards.

b. The new Minn. R. ch. 7053 will contain treatment requirements for discharges of sewage, industrial wastes and other wastes, effluent limits, requirements for aquaculture facilities and related provisions.

The intent of splitting Minn. R. ch. 7050 into two rules is to make the statewide water quality rules shorter and easier to use and understand.[4]

4. The Agency proposes to move into Minn. R. ch. 7053 the important provisions of two otherwise outdated rules, Minn. R. ch. 7056 and 7065. The two rules with their remaining mostly redundant and outdated provisions can then be repealed. The important parts of Minn. R. ch. 7056 are the prohibitions that apply to discharges to the Mississippi River and its tributaries from the mouth of the Rum River to St. Anthony Falls. These prohibitions are intended to protect the Minneapolis and St. Paul drinking water, which is withdrawn from the river in this reach. The important part of Minn. R.

[3] Ex. A-1 (SONAR Book I), Sec. I.A.
[4] SONAR Book I, Sec. I.A.

ch. 7065 is the 1 mg/L phosphorus effluent limit dischargers must meet if they discharge to certain designated waterbodies or watersheds.[5]

Statutory Authority

5. The Agency's authority to adopt water quality standards and to classify waters of the state is found in Minn. Stat. § 115.03 (2006), particularly subdivisions 1(b) and 1(c). Subdivision 1(b) authorizes the Agency to classify waters, while subdivision 1(c) authorizes the Agency:

> To establish and alter such reasonable pollution standards for any waters of the state in relation to the public use to which they are or may be put as it shall deem necessary for the purposes of this chapter and, with respect to the pollution of waters of the state, chapter 116; …

6. Additional authority for adopting standards is established under Minn. Stat. § 115.44, subds. 2 and 4. Subdivision 2 authorizes the Agency to:

> …group the designated waters of the state into classes, and adopt classifications and standards of purity and quality therefore.…

Subdivision 4 authorizes the Agency to:

> …adopt and design standards of quality and purity for each classification necessary for the public use or benefit contemplated by the classification. The standards shall prescribe what qualities and properties of water indicate a polluted condition of the waters of the state which is actually or potentially deleterious, harmful, detrimental, or injurious to the public health, safety, or welfare; to terrestrial or aquatic life or to its growth and propagation; or to the use of the waters for domestic, commercial and industrial, agricultural, recreational, or other reasonable purposes, with respect to the various classes established….

7. Finally, the Agency is authorized under Minn. Stat. § 115.03, subd. 5, to perform any and all acts minimally necessary, including the establishment and application of standards and rules, for the Agency's ongoing participation in the National Pollutant Discharge Elimination System (NPDES) permitting program.

8. Under these statutory provisions, the Agency has the necessary authority to adopt the proposed rules.

Compliance with Procedural Rulemaking Requirements

9. On November 10, 2003, the Agency published in the State Register a Request for Comments on the Agency's intention to draft rules governing water quality standards in Minnesota. The Agency outlined the potential issues, but noted that it had

[5] SONAR Book I, Sec. I.A.

not yet decided on the exact scope of the proposed amendments. The notice indicated that the Agency had not yet prepared a draft of the possible rule and invited comments.[6]

10. The Agency published a second Request for Comments in the State Register on May 17, 2004. This notice narrowed the scope of the proposed rules and provided a more detailed description of the possible amendments. The notice also informed the public of several public meetings scheduled regarding the proposed rules. The Agency had not yet prepared a draft of the possible amendments.[7]

11. On June 21, 2007, the Agency filed copies of the proposed Notice of Hearing, proposed rules, and draft Statement of Need and Reasonableness (SONAR) with the Office of Administrative Hearings. The filings complied with Minn. R. 1400.2080, subp. 5. On the same date, the Agency also filed a proposed additional notice plan for its Notice of Hearing and requested that the plan be approved pursuant to Minn. R. 1400.2060. By letter of June 28, 2007, the Administrative Law Judge approved the additional notice plan.[8]

12. As required by Minn. Stat. § 14.131, the Agency asked the Commissioner of Finance to evaluate the fiscal impact and benefit of the proposed rules on local units of government in a letter dated April 18, 2007.[9] The Department of Finance provided comments in a memorandum dated May 16, 2007, and stated that the Agency had adequately analyzed the potential costs to local units of government.[10] The Department of Finance concluded, "[w]hile some proposed changes will result in increased water treatment costs, local units of government can recover any cost increases through water use fees. For that reason, the rule will have minimal fiscal impact on local units of government."[11]

13. On July 20, 2007, the Agency mailed the Notice of Hearing to all persons and associations who had registered their names with the Agency for the purpose of receiving such notice. The Notice contained the elements required by Minn. R. 1400.2080, subp. 2. The Notice identified the dates and locations of the hearings in this matter. The Notice also announced that the hearing would continue until all interested persons had been heard, or additional hearing dates added, if needed.[12]

14. At the hearing in St. Paul, Minnesota, on August 29, 2007, the Agency filed copies of the following documents as required by Minn. R. 1400.2220:

---

[6] 28 SR 614 (November 10, 2003); *see also*, Ex. A-9. The section of this report entitled "Additional Notice Requirements" contains a more detailed description of the Request for Comments and the public comments received in response to it.

[7] 28 SR 1464 (May 17, 2004); *see also*, Ex. A-12. The section of this report entitled "Additional Notice Requirements" contains a more detailed description of the Request for Comments and the public comments received in response to it.

[8] MPCA Pub Hrg Exs. 9 and 10.

[9] MPCA Pub Hrg Ex. 8.

[10] *Id*.

[11] *Id.*

[12] MPCA Pub Hrg Exs. 3 and 5.

a. Proposed rule amendments approved for publication in the State Register by Cindy K. Maxwell, Senior Assistant Revisor, Office of the Revisor of Statutes, dated June 18, 2007.[13]

b. The proposed rule amendments published in the July 23, 2007, State Register (Cite 32 SR 87).[14]

c. The Notice of Hearing published in the July 30, 2007, State Register (Cite 32 SR 250).[15]

d. Certificate of furnishing the SONAR to the Legislative Reference Library with a copy of the transmittal letter attached.[16]

e. Certificate of: (1) mailing the Notice of Hearing to the rulemaking mailing list; (2) accuracy of the rulemaking mailing list; and (3) giving notice pursuant to the Additional Notice Plan. Copies of the transmittal letter, Notice of Hearing and the mailing lists are attached.[17]

f. Certificate of sending the Notice of Hearing and the SONAR to Legislators with copy of transmittal letter and mailing list attached.[18]

g. Certificate of notifying Department of Agriculture and Department of Transportation with a copy of transmittal letters attached.[19]

h. Certificate of consulting with Department of Finance with relevant correspondence attached.[20]

i. Letter from MPCA, dated June 21, 2007, to Chief Administrative Law Judge Raymond R. Krause requesting the scheduling of a rules hearing, assignment of an Administrative Law Judge, and approval of the• draft Notice of Hearing and Additional Notice Plan.[21]

---

[13] MPCA Pub Hrg Ex. 1.

[14] MPCA Pub Hrg Ex. 2.

[15] MPCA Pub Hrg Ex. 3. Due to a publishing oversight, the Notice of Hearing did not appear in the July 23, 2007 edition of the State Register. Its publication in the July 30, 2007 edition of the State Register met the 30 day requirement of Minn. Stat. § 14.14, subd. 1a(a).

[16] MPCA Pub Hrg Ex. 4.

[17] MPCA Pub Hrg Ex. 5.

[18] MPCA Pub Hrg Ex. 6.

[19] MPCA Pub Hrg Ex. 7.

[20] MPCA Pub Hrg Ex. 8.

[21] MPCA Pub Hrg Ex. 9.

j. Letter from Administrative Law Judge Steve M. Mihalchick, dated June 28, 2007, approving the MPCA's Notice of Hearing and Additional Notice Plan.[22]

k. Written comments on the proposed amendments sent to the MPCA email mailbox mnrule7050@pca.state.mn.us and MPCA responses since July 23, 2007.[23]

l. MPCA corrections to Minn. R. ch. 7050 and 7053 since the proposed amendments were certified by the Revisor of Statutes on June 18, 2007, and as Noticed in the State Register on July 23, 2007.[24]

m. 40 CFR parts 141 and 143, Volume 22, EPA's Code of Federal Regulations National Primary Drinking Water Regulations and National Secondary Drinking Water Regulations from the Government Printing Office, Revised as of July 1, 2006.[25]

n. Copy of the MPCA staff PowerPoint presentation on the proposed amendments that was given at the beginning of each public hearing session.[26]

o. Copies of the SONAR (Books I, II, and III) and the approximately 325 exhibits cited in the SONAR.

p. Prior to the hearing, most of the exhibits were available on the Agency's Web pages, except for some very large exhibits. All exhibits were available upon request for the cost of reproduction.[27]

15. The Agency has met all of the procedural requirements applicable to the proposed rules.

Additional Notice Requirements

16. Minn. Stat. §§ 14.131 and 14.23 require that an agency include in its SONAR a description of its efforts to provide additional notification to persons or classes of persons who may be affected by the proposed rule or explain why these efforts were not made.

17. The Agency has made a genuine and committed effort to involve interested parties and other members of the public in this rulemaking. Significant changes to the proposed rule were made in response to comments and feedback from interested parties. The proposed rule has benefited substantially from this public

[22] MPCA Pub Hrg Ex. 10.
[23] MPCA Pub Hrg Ex. 11.
[24] MPCA Pub Hrg Ex. 12.
[25] MPCA Pub Hrg Ex. 13.
[26] MPCA Pub Hrg Ex. 14.
[27] SONAR Book I, Sec. I.C.

input.[28] By the time of the public hearings, the Agency had heard and considered the great majority of the evidence and argument that would be presented by interested parties and the public at the hearing, and had made several modifications to its proposed rules to incorporate meritorious suggestions that had been presented. It made additional modifications based upon comments made at and during the hearings.

18. Beginning in the winter of 2003, Agency staff began meeting with interested parties to discuss plans for the revision of water quality standards. Approximately 30 meetings were held over the next three years. Many, if not most, were with the parties who participated in the hearings here and submitted comments to the Administrative Law Judge.[29]

19. The Agency published two notices in the *State Register* asking for comments and opinions on the Agency's planned amendments to water quality standards. The first notice was published on November 10, 2003. This notice listed the major items under consideration by the Agency for the revision and invited any person to comment on these plans. Comments were also solicited on any aspect of Minn. R. ch. 7050 and 7052. The public comment period associated with this notice ran from Nov. 10 to Dec. 31, 2003. Copies of the *State Register* notice with a general cover letter were mailed to about 60 parties on the triennial review interested party list. The Agency received seven comment letters during this comment period.[30]

20. The second notice in the *State Register* was published on May 17, 2004. This notice narrowed the scope of the planned revision and described those plans in more detail. It also announced the Agency's plans to hold a series of informal public meetings around the state. The dates, times and locations of seven public meetings planned for June, 2004, were published in this notice. These meetings are discussed in the next Section. The comment period associated with this notice ran from May 17 through June 30, 2004. Copies of the *State Register* notice with a general cover letter were mailed to about 60 parties on the triennial review interested party list. Comment letters were received from 13 parties.[31]

21. The Agency scheduled and hosted seven public meetings in June, 2004, to provide interested members of the public an opportunity to learn about the proposed revision, and to provide comments and ask questions. The meetings were held at the Agency's five Regional Offices and in St. Paul. The public was informed about the meetings through a notice published in the *State Register*, by a mailing, by posting on the Agency's water quality standards revision Web page, and by a news release. Turnout at the meetings was low, so Agency staff again sought opportunities to present relevant proposed changes at meetings already scheduled by interested parties and organizations rather than at meetings arranged by the Agency.

---

[28] SONAR Book I, Sec. III.A.
[29] SONAR Book I, Sec. III.B.
[30] Exhibits A-9 to A11.
[31] Exhibits A-12 to A-14, A-32a and A-32b.

22. The Agency briefed the Rule Adoption and Variances Committee of the Agency Citizens' Board about the proposed rule amendments on four occasions. Prior to each meeting a memorandum was sent to the Board members that outlined the proposed amendments or selected aspects of the proposed amendments. A copy of the memo was sent to people on the list of interested parties. In addition, the Board agenda is mailed to about 400 people before each meeting.[32]

23. The Agency created a Web page devoted to the proposed amendments in June of 2003.[33] It summarized the standards and other items the Agency was proposing to change or add and provided a tentative schedule. The Web page encouraged the public to submit comments or questions at any time. In December, 2004, the Web page was substantially expanded and updated to include more detailed information about the Agency's proposals. Subsequently the Web page was periodically updated to inform interested parties and the public about changes to the proposed rules.[34]

24. As found in Finding No. 14.j, the Agency submitted an additional notice plan to the Office of Administrative Hearings, which was reviewed and approved by the Administrative Law Judge by letter dated June 28, 2007. During the rulemaking proceeding, the Agency certified that it provided notice to those on the rulemaking mailing list maintained by the Agency and in accordance with its additional notice plan.[35]

25. Pursuant to Minn. Stat. § 115.44, subd. 7,[36] the Agency provided a copy of the Notice to:

- Mayors of cities in Minnesota
- Minnesota County Commissioner Chairs
- Minnesota Township Chairs
- Soil and Water Conservation Districts
- County Water Planners
- Watershed Offices
- Water Management Organizations
- NPDES/SDS industrial permittees
- POTW permittees;[37]

26. Pursuant to its approved additional notice plan, the Agency also provided a copy of the Notice to:

---

[32] SONAR Book I, Sec. III.F.

[33] http://www.pca.state.mn.us/water/standards/rulechange.html.

[34] SONAR Book I, Sec. III.F.

[35] MPCA Pub Hrg Ex. 5.

[36] Minn. Stat. § 115.44, subd. 7 (2006), provides that notices required under sections 14.14, subd. 1a, and 14.22, must also be mailed to the governing body of each municipality bordering or through which the waters for which standards are sought to be adopted flow.

[37] SONAR Book I, Sec. VIII.J.

- Environmental Justice Advocates of Minnesota
- Council of Asian-Pacific Minnesotans
- Chicano-Latino Affairs Council
- Council of Black Minnesotans
- Minnesota Indian Affairs Council
- EPA Tribal Liaison, and the Indian tribes in Minnesota (Boise Fort Band of Chippewa, Fond du Lac Reservation, Grand Portage Reservation, Leech Lake Reservation, Lower Sioux Indian Community, Mille Lacs Band of Chippewa, Prairie Island Community, Red Lake Nation – Red Lake Band of Chippewa, Shakopee Mdewakanton Sioux (Dakota) Community, Upper Sioux Community, and White Earth Reservation).[38]

27. The Agency went to great lengths to inform and involve interested parties and the affected public in this rulemaking. The active participation of those persons and the accommodation by the Agency of many of their concerns demonstrates that the Agency more than adequately satisfied the notice requirements.

Compliance with Other Statutory Requirements

Cost and Alternative Assessments

28. Minn. Stat. § 14.131 requires an agency adopting rules to include in its SONAR:

a. a description of the classes of persons who probably will be affected by the proposed rule, including classes that will bear the costs of the proposed rule and classes that will benefit from the proposed rule;

b. the probable costs to the agency and to any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenues;

c. a determination of whether there are less costly methods or less intrusive methods for achieving the purpose of the proposed rule;

d. a description of any alternative methods for achieving the purpose of the proposed rule that were seriously considered by the agency and the reasons why they were rejected in favor of the proposed rule;

e. the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals;

[38] *Id.*

f. the probable costs or consequences of not adopting the proposed rule, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals; and

g. an assessment of any differences between the proposed rule and existing federal regulations and a specific analysis of the need for and reasonableness of each difference.

In the SONAR, the Agency included and thoroughly addressed all these factors. Some of the statements in the SONAR are restated in the following findings.

Classes of Persons Affected

29. As the SONAR describes, all the citizens of Minnesota could be affected by, and benefit by, the proposed amendments to make the rules easier to understand. In particular, regulated parties will be better able to know and understand their regulatory obligations.

30. All the citizens of Minnesota could be affected by, and benefit from, the proposed eutrophication standards through the benefit to the State's valuable lake resources. **T**he Minnesota Department of Natural Resources that has the responsibility to enhance and manage the sport fishery in lakes, protect water quality, and protect shallow lakes and wetlands, will benefit because the standards will give them an added tool to carry out their mission.

31. Most citizens of Minnesota should benefit from the proposed extension of the TP limit to new and expanded discharges that discharge more than 1,800 pounds of TP per year. The benefits will be largely intangible, and the expected improvements in water quality are likely to go unnoticed by most Minnesotans. But the benefit are real and will be apparent to the many who pay closer attention to water quality. Reduced loading of TP from point sources should reduce the growth of attached algae in streams and rivers, and suspended algae in larger rivers, and it could improve dissolved oxygen conditions in rivers already impacted by excess nutrients. Reducing the growth rate is undeniably a sign of progress toward reducing actual levels of attached algae. The costs of meeting TP limits for new and expanding facilities will not be borne equally by Minnesota citizens. People living in communities just large enough to surpass the *de minimis* load of 1,800 pounds per year (equates approximately to a population of 2000) as a result of a planned expansion or new wastewater treatment plant, could see higher costs than those living in larger communities, or people in rural areas with individual septic systems.

32. A conservative or high estimate of the total capital and total annual operation and maintenance (O&M) costs (i.e., annual O&M costs for five years) for 35 POTWs in a range of sizes, projected to be impacted by the proposed change to the TP limit over the next five years, is estimated to be about $134 million. The number of POTWs (35) projected to be impacted in the next five years is based on the number of

new and expanding facilities that got TP limits from March 2000 through December 2005. Most of these TP treatment costs will be incurred regardless, even if the Agency did not propose the extension of the TP limit.

Estimate of the Probable Costs to the Agency and Other Agencies

33. All the proposed rule changes are not expected to significantly affect Agency staff needs or work loads. There will be no impact on overall Agency costs or state revenues as a result of any of these proposed amendments. There is a possibility that Agency work loads may increase, which will increase costs. However, any added work and costs will be absorbed into the normal staff complement and current budgets. The Agency does not believe any other state or federal agency will incur any significant added costs in the future due to the proposed eutrophication standards.

34. The proposed extension of the TP limits will not significantly affect Agency staff needs or work loads and overall Agency costs. To a large extent the Agency has been implementing the proposed extension of the TP limit for the last five years under the Phosphorus Strategy. The level of staff commitment is not likely to change due to the proposed extension of the TP limit. No other state or federal agency will incur any costs due to this proposed change, because it is the sole responsibility of the Agency to issue NPDES permits and to determine the appropriate effluent limits.

Determination of Whether there are Less Costly or Less Intrusive Methods

35. There are no costs to outside parties associated with the proposed amendments primarily regarding reorganization of the rules. These changes should help outside parties use the rules more efficiently, and to interpret the rules without the need for as much Agency involvement.

36. There are options open to the Agency that would at least partially achieve the goal of improving our ability to protect lakes, which the Agency rejected in favor of the proposed combination of numeric and narrative eutrophication standards. It is conceivable that the rejected options could be somewhat less costly and less intrusive, but the Agency believes that it is equally possible that these options would be more costly than the proposed approach.

Description of Alternatives Seriously Considered

37. Outside of several changes made to the scope of these proposed amendments since the planning process started in 2003, the Agency has not considered the alternative of not entering into this rulemaking. Indeed, the Clean Water Act requires a review of state water quality standards every three years. If the Agency is to achieve all its goals of making the rules smaller, clearer and easier to use, significant rearrangement and rewording of rule language needs to take place. Obviously alternatives of how to rearrange rule provisions and how to clarify wording are numerous. At the outset, the Agency defined the goals to be achieved through these changes which became the framework for how proposed changes were made.

Estimate of the Probable Costs of Complying

38. The proposed organizational and language improvement amendments will not result in increased costs to any outside party.

Estimate of the Probable Costs of Not Adopting the Proposed Rule Amendments

39. The possible costs to outside parties of not adopting the proposed organizational changes are likely to be very small. If the extension of the site-specific modification provision to standards in all use classes were not adopted, some regulated parties may be forced to use potentially more expensive alternatives to gain legitimate relief from certain standards.

40. In general, it is unlikely that there will be direct costs to most outside parties if the eutrophication standards are not adopted. Were it not for the availability of the existing nutrient criteria, the job of some outside parties could be made more difficult (and possibly more expensive) if the narrative standard had to be re-interpreted on a case-by case basis for each application.

41. Groups that possibly could see monetary losses are lakeshore property owners, resort owners and others that depend on lakes to make a living. A decline in water quality could negatively impact these groups. For example lakeshore property values have been shown to decline if the water quality in the lake declines.

42. In general it is unlikely that there would be any direct costs to any party if the proposed extension of the TP limit was not adopted. However, the proposed rule is clear in its application and implementation will be straightforward. Because of this, it is not unreasonable to assume that there could be cost savings to some outside parties and the Agency due to fewer contested case hearings and less litigation under the proposed rule.

Differences between the Proposed Rule and Existing Federal Regulations

43. None of the proposed changes are inconsistent with federal regulations. One or two proposed changes may be inconsistent with EPA **guidance**, but not regulations. The proposed addition of the minimum hardness value of 10 mg/L for the calculation of the hardness dependant trace metal standards is not consistent with EPA guidance, but not inconsistent with EPA regulations. The proposed retention of the fecal coliform effluent limit in NPDES permits may also be inconsistent with EPA guidance.

44. In general, the changes proposed are meant to bring the language of the rules more in line with the federal language and achieve greater consistency with both federal regulations and guidance.

45. There are no specific federal regulations that the Agency is aware relevant to the extension of TP limits to new or expanding discharges that discharge more than 1,800 pounds of TP per year.

46. The Agency has fulfilled its obligation under Minn. Stat. § 14.131 to discuss cost and alternative assessments in the SONAR.

Impact on Farming Operations

47. Minn. Stat. § 14.111 imposes an additional requirement calling for notification to be provided to the Commissioner of Agriculture when rules are proposed that affect farming operations. In addition, where proposed rules affect farming operations, Minn. Stat. § 14.14, subd. 1b, requires that at least one public hearing be conducted in an agricultural area of the state.

48. In the SONAR, the Agency stated that the proposed rules regarding Class 2 numeric standards for acetochlor and metolachlor in chapter 7050 could impact farming operations.[39] Accordingly, the Agency sent a letter to the Commissioner of Agriculture dated April 18, 2007, accompanied by a copy of the proposed rules. In the letter, the Agency stated that it shared responsibilities with the Department of Agriculture to ensure waters meet their designated beneficial uses relative to pesticides, and further indicated that the proposed rule revisions in chapter 7050 include new water quality standards for two corn herbicides, acetochlor and metolachlor.[40] The Agency asserted that corn growers in the listed watersheds could be affected by the proposed rules of chapter 7050.

49. Several of the public hearings were held in or near the affected agricultural areas of the State.

50. The Administrative Law Judge concludes that MPCA has provided notice in accordance with Minn. Stat. § 14.111.

Impact on Transportation

51. Minn. Stat. § 174.05, subd. 1, requires the Agency to inform the Commissioner of Transportation of all activities which relate to the adoption, revision or repeal of any standard or rule concerning transportation.

52. A representative of the Minnesota Department of Transportation (MDOT) is on the Agency's interested party mailing list and received all the mailings. In the SONAR, the Agency stated that the proposed rules regarding eutrophication standards could have an indirect impact on transportation, as could the proposed change to the default industrial use classification from 3B to 3C.[41] Accordingly, the Agency sent a letter to the Commissioner of Transportation dated April 18, 2007, accompanied by a

[39] SONAR Book III, Sec. XII.
[40] MPCA Pub Hrg Ex. 7.
[41] SONAR Book II, Sec. XIII; and SONAR Book III, Sec. XIII.

copy of the proposed rules. In the letter, the Agency acknowledged the Department's oral and written comments to the MPCA Citizen's Board on August 24, 2004, about the possible revision of the Class 2 chloride standard, but the agency stated that it would not make revisions to the Class 2 chloride standards at this time.[42]

53. The MPCA has provided notice in accordance with Minn. Stat. § 174.05, subd. 1.

Performance-Based Regulation

54. Minn. Stat. § 14.131 also requires that an agency include in its SONAR a description of how it "considered and implemented the legislative policy supporting performance-based regulatory systems set forth in section 14.002." Section 14.002 states, in relevant part, that "whenever feasible, state agencies must develop rules and regulatory programs that emphasize superior achievement in meeting the agency's regulatory objectives and maximum flexibility for the regulated party and the agency in meeting those goals."

55. In the SONAR, the Agency stated that it attempts to be flexible and open-minded in the implementation of regulatory programs; and to seek solutions to problems in an atmosphere of freedom to "think outside the box". Some examples of that approach in the proposed rules were discussed in the SONAR and are highlighted in the following findings.

56. There are strong and legitimate pressures to make this type of rule very precise and prescriptive on one hand, and to make them flexible and open to interpretation on the other. Finding the balance in rulemaking between the ends of the prescriptive/flexible spectrum is not always easy; and the balance the Agency finds can be unsatisfactory to various outside parties, depending on their point of reference. Flexibility to some means inconsistent application of rules and the granting of too much authority to staff or to the Agency Citizens' Board. Too much prescriptiveness to others means inability to deal with case-by-case variability and being forced into untenable bureaucratic positions and endless red tape. The Revisor's Office, appropriately, applies certain conventions to rules that places limits on language that is deemed too flexible or "open ended". Also, the Attorney General staff tends to prefer explicit language over language open to too much interpretation. Finally, not all rules or provisions in rules require, or should have, the same level of prescriptiveness. A reasonable middle ground between the two ends of this spectrum varies depending on the proposed amendment and part of the rule being revised. In the amendments being proposed, the Agency believes it has found a reasonable balance between detail and flexibility.

57. On the appropriately "prescriptive" side are numeric standards, including those proposed in this rulemaking. The proposed *E. coli* standard of 126 organisms per 100 ml and the mercury standard of 0.2 ppm in fish, for example, are very explicit. A

[42] MPCA Pub Hrg Ex. 7.

30-day geometric mean of 127 organisms per 100 ml is an exceedance of the *E. coli* standard[43]. Interestingly, the proposed numeric eutrophication standards for lakes illustrate the Agency's intent, with these particular standards, to moderate their prescriptiveness by attaching a narrative to the numeric standards. In doing this for the proposed lake standards, the Agency is recognizing the huge range and variety of lake characteristics that exist in Minnesota's lakes.

58. Another "prescriptive" example is the proposed *de minimis* phosphorus loading of 1,800 pounds per year. It is important that dividing line that determines whether or not a new or expanding discharger gets a 1 mg/L phosphorus limit is explicit.

59. Examples of appropriately "flexible" rule language in the proposed amendments are the exemptions in Minn. R. 7053.0255, subp. 4, items A to C. The exemptions (also called "off ramps") allow a new or expanding discharger to petition the Agency for an exemption to the 1 mg/L phosphorus limit. The wording of the off ramps is general enough to give the Agency the leeway it needs to evaluate the merits of each petition on a case-by-case basis. The rule includes guidance to permittees on the types of information that should be included in their petition. The supportive information submitted by the discharger and the conditions that might justify an exemption will be very case-specific. The Agency must retain enough flexibility to make individual decisions tailored to each case while providing enough guidance in rule to inform parties of their obligations. No amount of prescriptive language in the off ramps could capture all possible relevant factors that will enter into these individual decisions; thus, more flexible language is warranted in this context.

60. Another example of flexibility in rules is the change to allow site-specific modification of an existing standard for any use classification. In this case the flexibility is not in the language itself (i.e., being open to a range of interpretations), but in the authority it grants to the Agency to modify standards for any use class on a site-specific basis (with EPA approval).

61. The proposed numeric eutrophication standards are "prescriptive" as are all numeric standards. However, because lake standards are unique in several respects, greater flexibility is built into these standards than into most numeric standards. First, separate standards have been developed for four ecoregions and four lake types to accommodate the regional patterns and variability in lakes statewide. Secondly, accompanying the numeric standards are narrative statements that provide important information on how the numeric standards are to be interpreted and implemented, plus a reminder that site-specific standards should be considered, particularly for reservoirs.

62. The proposed extension of the TP limits combines a "prescriptive" component with a more flexible component. The former is the 1 mg/L limit itself, which is prescriptive. The latter is exemplified by the three possible exemptions available to

[43] The precise nature of numeric standards does not prevent the Agency from applying good science and professional judgment in the analysis of data to determine the magnitude and extent of exceedances.

dischargers, which allows them to request an alternative limit or no limit at all. Any petition the Agency receives from a discharger for relief under one of the exemptions (Section IX.H) will need to be reviewed and processed on a case-by-case basis. The Agency will have discretion as to the disposition of future petitions. It may be prudent for the Agency to establish a policy framework for the consideration of petitions, and to write technical guidance to help dischargers prepare a petition is a possibility.

63. The range of changes the Agency is proposing in these amendments represents a reasonable balance between detail and flexibility; and that "balance" appropriately varies depending on the particular amendment. The proposed changes are consistent with the intent of Minn. Stat. § 14.002.

64. The Administrative Law Judge finds that the Agency has met the requirements set forth in Minn. Stat. § 14.131 for assessing the impact of the proposed rules, including consideration and implementation of the legislative policy supporting performance-based regulatory systems.

Cost to Small Businesses and Cities under Minn. Stat. § 14.127

65. Effective July 1, 2005, under Minn. Stat. § 14.127, the Agency must "determine if the cost of complying with a proposed rule in the first year after the rule takes effect will exceed $25,000 for: (1) any one business that has less than 50 full-time employees; or (2) any one statutory or home rule charter city that has less than ten full-time employees."[44] The Agency must make this determination before the close of the hearing record, and the Administrative Law Judge must review the determination and approve or disapprove it.[45]

66. The Agency addressed this requirement thoroughly in the SONAR. It determined that there will be no added costs to any outside parties due to the proposed organizations changes. It determined that adoption of the eutrophication standards could be devised that would result in a business or city incurring costs as a result of the in the first year. The Agency has estimated potential costs to point source dischargers as a result of the eutrophication standards and this could include small cities if they have sanitary sewers and a discharge from a wastewater treatment plant. But, it is impossible to estimate or quantify these potential first-year costs and no way to know if they might exceed $25,000. Any projected added costs would be outside the impaired waters and TMDL programs because these potential costs are being incurred now through the application of the existing narrative eutrophication standard and the Agency's numeric criteria at existing Minn. R. 7050.0150, subp. 5. The Agency believes that these situations will be unusual in the first year after adoption.

67. The Agency believes it is highly unlikely that the cost of complying with the proposed extension of the TP limit to new and expanding dischargers will exceed $25,000 in the first year after it takes effect. The proposal will not impact most small

[44] Minn. Stat. § 14.127, subd. 1.
[45] Minn. Stat. § 14.127, subd. 2.

business and small cities due to the *de minimis* threshold of 1,800 pounds of TP discharged in one year. Also, the number of parties of any size that will incur costs in the first year after adoption is likely to be small because of the time it takes to issue permits for new or expanding facilities and the time it takes for the city or business to let contracts for planning, design and construction of the new facilities.

68. The Administrative Law Judge finds that the Agency has made the determination required by Minn. Stat. § 14.127 and approves that determination.

Consultation with the Commissioner of Finance

69. Under Minn. Stat. § 14.131, the agency is also required to "consult with the commissioner of finance to help evaluate the fiscal impact and fiscal benefits of the proposed rule on units of local government."

70. In accordance with the interim process established by the Department of Finance on June 21, 2004, the Agency provided the Department of Finance with a copy of the proposed rule and SONAR at the same time as these items were sent to the Governor's Office.

71. As stated in Finding No. 14.h, the Agency asked the Commissioner of Finance to evaluate the fiscal impact and benefit of the proposed rules on local units of government in a letter dated April 18, 2007.[46] The Department of Finance provided comments in a memorandum dated May 16, 2007, and stated that the Agency had adequately analyzed the potential costs to local units of government.[47] The Department of Finance concluded, "[w]hile some proposed changes will result in increased water treatment costs, local units of government can recover any cost increases through water use fees. For that reason, the rule will have minimal fiscal impact on local units of government."[48]

72. The Administrative Law Judge finds that the Agency has met the requirements set forth in Minn. Stat. § 14.131 for assessing the impact of the proposed rules, including consideration and implementation of the legislative policy supporting performance-based regulatory systems.

Rulemaking Legal Standards

73. Under Minnesota law,[49] one of the determinations that must be made in a rulemaking proceeding is whether the agency has established the need for and reasonableness of the proposed rules by an affirmative presentation of facts. In support of a rule, an agency may rely on legislative facts, namely general facts concerning questions of law, policy and discretion, or it may simply rely on interpretation of a

[46] MPCA Pub Hrg Ex. 8.
[47] *Id*.
[48] *Id.*
[49] Minn. Stat. § 14.14, subd. 2; Minn. R. 1400.2100.

statute, or stated policy preferences.[50] Here, the Agency prepared an extremely detailed and complete SONAR, supported by several hundred exhibits, in support of its proposed rules. The Agency supplemented the SONAR with comments made by MPCA staff at the public hearing and with the Agency's written post-hearing Response and Final Response.

74. The question of whether a rule has been shown to be reasonable focuses on whether it has been shown to have a rational basis, or whether it is arbitrary, based upon the rulemaking record. Minnesota case law has equated an unreasonable rule with an arbitrary rule.[51] Arbitrary or unreasonable agency action is action without consideration and in disregard of the facts and circumstances of the case.[52] A rule is generally found to be reasonable if it is rationally related to the end sought to be achieved by the governing statute.[53] The Minnesota Supreme Court has further defined an agency's burden in adopting rules by requiring it to "explain on what evidence it is relying and how the evidence connects rationally with the agency's choice of action to be taken."[54]

75. Reasonable minds might be divided about the wisdom of a certain course of action. An agency is legally entitled to make choices between possible approaches so long as its choice is rational. It is not the role of the Administrative Law Judge to determine which policy alternative presents the "best" approach, since this would invade the policy-making discretion of the agency. The question is, rather, whether the choice made by the agency is one that a rational person could have made.[55]

76. In addition to need and reasonableness, the Administrative Law Judge must also assess whether the Agency complied with the rule adoption procedure, whether the rule grants undue discretion, whether the Agency has statutory authority to adopt the rule, whether the rule is unconstitutional or illegal, whether the rule constitutes an undue delegation of authority to another entity, or whether the proposed language is not a rule.[56]

77. Because the Agency suggested changes to proposed rules after the hearing and in response to comments by the public, it is necessary for the Administrative Law Judge to determine if the new language is substantially different from that which was originally proposed. The standards to determine whether changes to proposed rules create a substantially different rule are found in Minn. Stat. § 14.05,

---

[50] *Mammenga v. MPCA of Human Services*, 442 N.W.2d 786 (Minn. 1989); *Manufactured Hous. Inst. v. Pettersen*, 347 N.W.2d 238, 244 (Minn. 1984).

[51] *In re Hanson*, 275 N.W.2d 790 (Minn. 1978); *Hurley v. Chaffee*, 231 Minn. 362, 43 N.W.2d 281, 284 (1950).

[52] *Greenhill v. Bailey*, 519 F.2d 5, 19 (8th Cir. 1975).

[53] *Mammenga*, 442 N.W.2d at 789-90; *Broen Mem'l Home v. Minnesota Dept. of Human Services*, 364 N.W.2d 436, 444 (Minn. Ct. App. 1985).

[54] *Manufactured Hous. Inst. v. Pettersen*, 347 N.W.2d at 244.

[55] *Federal Sec. Adm'r v. Quaker Oats Co.*, 318 U.S. 218, 233 (1943).

[56] Minn. R. 1400.2100.

subd. 2. The statute specifies that a modification does not make a proposed rule substantially different if "the differences are within the scope of the matter announced . . . in the notice of hearing and are in character with the issues raised in that notice," the differences "are a logical outgrowth of the contents of the . . . notice of hearing, and the comments submitted in response to the notice," and the notice of hearing "provided fair warning that the outcome of that rulemaking proceeding could be the rule in question." In reaching a determination regarding whether modifications result in a rule that is substantially different, the Administrative Law Judge is to consider whether "persons who will be affected by the rule should have understood that the rulemaking proceeding . . . could affect their interests," whether the "subject matter of the rule or issues determined by the rule are different from the subject matter or issues contained in the . . . notice of hearing," and whether "the effects of the rule differ from the effects of the proposed rule contained in the . . . notice of hearing."

Analysis of the Proposed Rules

78. The Administrative Law Judge finds that the Agency has demonstrated, by an affirmative presentation of facts, the need for and reasonableness of all provisions of its rule changes as originally proposed and the modifications it proposed in its post hearing Response. The Administrative Law Judge also finds that all provisions are authorized by statute and that there are no other problems that would prevent the adoption of the proposed rules.

Response to Public Comments

79. There is some disagreement with the Agency's rules expressed by interested persons and other members of the public. Again, however, the Agency has fully addressed those concerns, incorporated some of them in its modifications, or added further clarification of its reasons for its own proposals. The Agency is not required to adopt a rule or policy because someone considers it "better," or more favorable to that person. Some of the comments were directed at rule provisions that were not proposed to be changed and some requested new rules beyond those proposed in this proceeding. Those are not within the scope of the Notice of Hearing and cannot be addressed. None of the public comments demonstrate that any of the proposed rule changes are unreasonable or not in compliance with applicable law.

80. Since the Agency is proposing modifications in response to public comment, those responses are highlighted in the following findings. In its Post Hearing Response,[57] the Agency described the reasoning behind those modifications in detail. All the rule language changes are shown in Attachment 1 to the Agency's Response.[58]

81. One of the changes the Agency is proposing a change to Minn. R. 7053.0255, subp. 4. C.

[57] MPCA Ex. 15.
[58] MPCA Ex. 16.

*C. the treatment works, regardless of the type of treatment technology, ~~must use~~ **uses** chemical addition to achieve compliance with the one milligram per liter limit and the discharge is to a receiving stream in a watershed listed in subitems (1) to (3). In this case the discharger may be granted a seasonal one milligram per liter limit, applicable from May 1 through September 30 and not applicable from October 1 through April 30*:

82. The Agency stated:

> Mr. Joseph Sullivan with Flaherty and Hood P.A., representing the Coalition of Greater Minnesota Cities (CGMC), said that CGMC believes that off ramp "C" is unworkable, and that the provision "requires a community to prove that chemical nutrient removal is the only option available" to remove TP from the wastewater. This is not the Agency's intended interpretation of this off ramp.
>
> The off ramp is intended to apply to any new or expanding discharger (that exceeds the *de minimis* loading) that uses chemicals to remove TP from wastewater. This includes facilities that rely on chemicals exclusively to remove TP, those that use a combination of biological phosphorus removal technologies and chemical addition, and those that use other technologies plus chemicals to remove TP. A facility that uses biological phosphorus removal (Bio-P) technologies or other non-chemical methods as the primary means to remove TP, but the operator feels the need to add small quantities of chemical to assure compliance with the TP limit on a monthly basis, may not be good candidates for this off ramp. In any case, the off ramp does not require the discharger to **prove** that chemical addition is the only alternative, it simply means that if they do use chemicals, they potentially qualify for this off ramp. The Agency does not want to adopt any rule language that would have the effect of discouraging municipalities from considering using Bio-P technologies in new or expanding facilities. The Agency is proposing to remove the words "must use" in this off ramp and replace them with "uses" to clarify its intended application (Attachment 1).

83. The Agency is proposing to change the proposed chronic standard for acetochlor from 1.7 µg/L to 3.6 µg/L based on the consideration of additional plant toxicity data provided by Monsanto just prior to the public hearings and consideration of their witness Dr. Giddings' report presented at the hearing.[59] This change will be made in six locations in Minn. R. ch. 7050.

84. The Agency proposed to include a minimum total hardness of 10 mg/L for the calculation of the hardness-variable trace metal standards. The Agency is now proposing to withdraw this proposal and return to the hardness provision in the current

[59] P-Ex. 6.

rule, which establishes a maximum hardness of 400 mg/L, but has no minimum. It is withdrawing the provision because the Minnesota Center for Environmental Advocacy objected to this change and their consultant, Dr. Lawrence Baker, critiqued the proposal,[60] The Agency does not fundamentally disagree with the comments of MCEA and Dr. Baker on this issue. Moreover, staff of the U.S. Environmental Protection Agency Region 5 (which must approve Minnesota's changes to water quality standards) also did not support this change.

85. In one of its responses to comments on the proposed eutrophication standards, the Agency stated:

> MESERB expressed concern that the data used to arrive at the proposed eutrophication standards may not reflect the conditions of lakes to which the standards are subsequently applied, particularly when applied to reservoirs (Tr. 8/30 at 32 and 33; see Section III.F). Mr. Hall cited page 7 of the 1985 EPA national guidance on criteria development.[61] The sentence we believe he was referring to says: "*Criteria must be used in a manner that is consistent with the way in which they were derived if the intended level of protection is to be provided in the real world*." The Agency agrees with this statement and believes the proposed eutrophication standards more than satisfy this goal.
>
> The proposed eutrophication standards are based on very extensive and multi-faceted data sets. For example, the "assessment" database includes data for almost 2,800 lakes. These data are supplemented with data from the Environmental Protection Agency (EPA) nutrient criteria data base (this large data set broadly overlaps with the former), citizen lake monitoring program data including user perception data, data from reference lakes, historical trophic condition data (diatom reconstruction), and biological data (SONAR-II at 48). Despite this, due to the variability in lakes state-wide, it is possible that the standards might be applied to lakes or reservoirs not adequately represented in this very robust data set. Not every lake in Minnesota has been monitored It is not only impractical to try to do so, it is not necessary. The large and multifaceted data sets for the four lake types (lake trout, stream trout, deep and shallow lakes) adequately represent the vast majority of lakes in Minnesota. The Agency has the flexibility and means to accommodate the exceptions (e.g., site-specific modification of a standard).
>
> MESERB seems to support the concept that the proposed eutrophication standards do not reflect "worst case" water quality conditions (P-Ex.-1 at 3). By specifying a summer average and the practice of taking an

[60] P-Ex.-11.

[61] U.S. EPA, 1985. Guidelines for deriving numerical national water quality criteria for the protection of aquatic organisms and their uses. EPA Office of Research and Development, Environmental Research Laboratories, Duluth, MN; Narragansett, RI; Corvallis, OR.

integrated sample (a two-meter tube that takes an "integrated" vertical sample of the surface water[62]), the assessment of lakes does not focus on only a "worst case" summer condition. However, the robustness of the data the standards are based on allows us to estimate in general the magnitude and duration of algae blooms at the TP concentrations represented by the standards; or to put it another way, we can estimate the percentage of the summer period when algae blooms are likely to hinder full recreational use (a "worst case" period).

The narrative portion of the proposed standards addresses several important issues regarding the implementation of lake standards. First, the standards are compared to lake data averaged over the growing season. In practice, data are averaged over two or three growing seasons for assessment purposes. Averaging the data "smooths" out some of the seasonal variability. Second, the TP (cause) and either Chlorophyll-a (Chl-a) and Secchi depth (SD) (response) must be exceeded for the standard to be violated. Third, high quality lakes will be protected to keep them in that condition. Fourth, exceedance of the standards due to natural causes is not a violation of the standard. Finally, the option of developing a site-specific standard is available.

In assessing lakes for potential impairment, the Agency uses a "weight of evidence" approach, carefully evaluating all the data and relevant information collected over two or more years before making a decision. The Agency's recommended conclusion regarding impairment can be taken before a professional judgment team of experts, which reviews all the relevant information and the Agency's recommendation. Also the public has ample opportunity to comment on the proposed impairment listings.[63] Not only do the proposed standards recognize data variability but there are also multiple safeguards that are invoked when the standards are implemented.

86. Regarding comments on the protection of Class 2 beneficial uses, the Agency stated:

MESERB says we should very clearly outline which aquatic life and recreation (Class 2) sub-use the proposed standards are designed to protect and which sub-use controlled the derivation of the standard, but this information does not have to be in rule (P-Ex.-1 at 4, no. 8; Tr. 8/30 at 44). The Agency has detailed exactly what MESERB asks in SONAR-II at

[62] The integrated sample is not part of the proposed rule language but is in Agency guidance on lake monitoring and lake assessment, **Attachment** 2.

[63] The Agency is holding public meetings around the state at this time to get public input on the draft impaired waters list for 2008. Such meetings are held for each proposed impaired waters list on the two-year cycle.

72 and in Table II-11 at 73.[64] The proposed standards have been set at levels that focus on a particular sub-use, with the recognition that there is considerable variability in what constitutes protection of that sub-use. Ultimately the standards are designed to protect all sub categories of Class 2 uses.

The Agency does not intend to add the principal sub-use to the rule because doing so could easily confuse the public about the uses for which individual lakes or groups of lakes are protected. Any suggestion that sub-uses other than the primary one is not achievable in a waterbody would require a use attainability analysis. Again, all lakes are protected for a variety of aquatic life and recreational uses (plus aesthetics) until a use attainability analysis demonstrates otherwise.

MCEA is concerned that the standards for shallow lakes located in the two southern ecoregions will not be protective of swimming during part of the summer. This is likely to be true for many shallow lakes in this part of the state. However, the Agency is not "writing off" shallow lakes for swimming use; they will still be protected for swimming where attainable (removal of the swimming use would require a use attainability analysis). The "attainability" concept in rule is long-standing language associated with Class 2 standards, which include the clause: "*These waters shall be suitable for aquatic recreation of all kinds, including bathing,* ***for which the waters may be usable*** (emphasis added; Minn. R. 7050.0222 subp. 3 and 4). The Agency will work to protect and enhance swimming uses in shallow lakes where that use is attainable. The reality is that considerably less than 25 percent of assessed shallow and deep lakes in the Western Corn Belt Plains ecoregion (assessment data base) meet the proposed phosphorus standard for shallow lakes of 90 µg/L (SONAR-II at 69, and Figure II-9 at 70).

MCEA is concerned that, because the standards are purposely set near the threshold that protects the critical sub-use, there will be an endless round of listing (as impaired) and delisting (P-Ex.-11, part I.A. at 1). This seems unlikely given the variability in lakes and the time and effort that will be expended to restore an impaired lake to compliance with standards through the TMDL process. One could voice the same concern about any standard and any waterbody in which the concentrations of the pollutant hover close to the standard.

87. The definition of "reservoirs" was of concern because of the difference it creates in whether to apply the standards for lakes or for rivers to them. The Agency replied to those concerns as follows:

[64] Coldwater fishery in trout lakes; recreational and swimming uses in "deep" lakes and reservoirs, and ecological diversity (healthy macrophyte communities) in shallow lakes.

MESERB asserts that applying a 14-day residence time at relatively low flow conditions (a 122-day average low flow with once in 10 year recurrence interval) is not supported in the literature (P-Ex.-1 at 5, Tr. 8/30 at 29). The Agency disagrees (see SONAR-I at 137, Ex.EU-16 at 3-1 and Ex.PL-1c). To be clear, the $122Q_{10}$ applies only to reservoirs. A flow must be specified to establish a flow benchmark to determine the 14-day residence time to distinguish reservoirs from rivers. The 122-day period is a four-month, season-long average low flow, which coincides with the period over which lake data are averaged for comparison to the standards.

It is true that eutrophication standards will be applied to reservoirs in instances when the residence time is less than 14 days because flows at the time are greater than the $122Q_{10}$. This is appropriate. If the Agency is to carry out its mandate to protect water resources under most conditions, water quality standards must be applicable under most conditions, not just average and better than average conditions. Impacts from excess nutrients occur in riverine systems and reservoirs when residence times are less than 14 days as we have seen in some major rivers such as the lower Minnesota (see Ex.PL-7). Also, flow through a reservoir can decline to a $122Q_{10}$ flow or less for days or weeks at a time during summer dry periods, with a concomitant increase in residence time longer than 14 days.

The more common Class 2 toxicity-based standards apply at a much lower flow than the $122Q_{10}$; i.e., the $7Q_{10}$ and at all greater flows. This is necessary to protect the aquatic community at essentially all flows except those flows under severe drought conditions. The analogous policy of applying eutrophication standards to reservoirs at a larger flow, the $122Q_{10}$, is a reasonable more lenient policy for nutrients, which are not toxic.

MESERB recommends (P-Ex.-1 at 5, Tr. 8/30 at 48) creating separate classes for reservoirs, specifying that the standards should apply presumptively only to "reservoirs similar to natural lakes (not dammed streams/rivers)," and to name the reservoirs to which the standards do not fit. The Agency questions where one would draw the line between the two types of reservoirs? To do this would create considerable unnecessary work for Agency staff. The recommendations are simply not practical or needed. Creating two classes, one for more lake-like reservoirs and one for dammed streams or rivers, does not address the real issue, which is that reservoirs have unique characteristics that demand site-specific analysis. The Agency recognizes this fact. We have included language in the narrative portion of the lake standards to emphasize it (Minn. R. 7050.0222, subp. 2a, 3a and 4a), and we are already doing site-specific

analyses on three of the four reservoirs mentioned by Mr. Hall (Tr. 8/30 at 38 and 50).[65]

In summary, the $122Q_{10}$ as applied to the determination of residence time for reservoirs is needed and reasonable because:

> The eutrophication standards apply to lakes and reservoirs, not rivers and streams; a precise and unequivocal method is needed to make the distinction (Tr. 9/12 at 108).
>
> The time frame for the $122Q_{10}$ coincides with the season-long period over which lake/reservoir data are averaged.

MCEA objects to the proposed definition of reservoir. MCEA also objects to the site-specific modification of standards in general and in particular its application to reservoirs (P-Ex.-11 Part II at 3 and Part III, Tr. 9/12 at 106). MCEA cites Lake Byllesby as an example of the misuse of the site-specific analysis for reservoirs. On the contrary, the Agency believes that Lake Byllesby is a prime example of how the site-specific approach to reservoirs works and why it is needed and reasonable, particularly in the context of a TMDL study. The site-specific standard for Lake Byllesby is being carried out in concert with the local party responsible for the TMDL (Cannon River Watershed Partnership) and other stakeholders throughout the watershed.

MCEA says that the need to define "reservoir" is driven by "the use of the term in the phosphorus effluent limitations language" (P-Ex. 11, Part II at 1). This is not so; again the need for this definition is driven by the requirement to separate reservoirs from rivers for the application of the eutrophication standards. The standards will apply to reservoirs but not to rivers and streams (Tr. 9/12 at 108). MCEA's statements about the definition of reservoir and about TP effluent limits seem to be influenced by their desire for the Agency to adopt nutrient standards for rivers, which is not part of this rulemaking. Regardless, river standards, once in place, will not eliminate the need for this definition because river standards are very likely to be different than lake and reservoir standards.

MCEA's suggested definition for reservoirs as any body of water retained by a dam is too abstract, vague and unworkable (P-Ex.-11, Part II at 3; Tr. 9/12 at 83). Such a definition would create a situation ripe for controversy, debate and potential litigation. Many rivers have small or low-head dams that retain water for a very short time period. These "pools" are clearly not reservoirs. Many true lakes have dams or control structure at their

[65] Lakes Pepin and the Zumbro, Byllesby, and Redwood River reservoirs. Note: Lake Pepin is a natural lake.

outlet.[66] The fact that other organizations have different definitions for "reservoir" is irrelevant. The Agency has a specific purpose for its definition (distinguish reservoirs from rivers) and the proposed definition serves that purpose. The Agency believes that the way to address the impact of excess nutrients in rivers and streams is adoption of the extension of the TP effluent limit to new and expanding discharges, and to continue on our path to develop nutrient standards for rivers and streams (P-Ex.-11, Part II at 4).

MCEA claims the proposed definition of reservoir is "unmanageable" because it is highly technical and obscure to the public (P-Ex.-11, Part II at 5). That may be true. Out of necessity many provisions in Minn. R. ch. 7050 are highly technical (see for example, Minn. R. 7050.0218). The determination of residence time and the statistics of low flow frequency and recurrence interval are technical and not always easy for the layperson to understand. However, when the public needs to understand these concepts, such as in the context of TMDL stakeholder groups, they are able to do so. The solution is not to "dumb-down" the definition to the point where it is meaningless for its intended purpose.

88. Steve Nyhus and John Hall, representing MESERB, and Joseph Sullivan of Flaherty and Hood P.A., representing the Coalition of Greater Minnesota Cities (CGMC), offered comments on the proposed extension of the phosphorus (TP) effluent limit to new and expanding discharges that discharge more than 1,800 pounds of TP per year. MESERB and CGMC oppose this change.[67]

MESERB and CGMC comments focus on the implementation of TP limits without the demonstration of "affects" or in the absence of a demonstration of impairment. The basis for the Agency's proposal is far broader than simply "phosphorus can contribute to algal growth in streams during summer low flow periods" as MESERB asserts (P-Ex.-1 at 7; see SONAR-II beginning at 98). MESERB and CGMC offer specific suggestions for changes to the rule that will remedy their concerns (e.g., P-Ex.-1 at 8), which are:

1. Impose TP limits only when the receiving stream has been identified as impaired. (It is not stated but we assume that the impairment must be related to excess nutrients in some way);

2. The completed [nutrient-related] TMDL will determine the required point source TP limits;

[66] The Agency has for many years used and continues to use the MN Department of Natural Resources (MDNR) Bulletin 25 to identify both lakes and reservoirs (P-Ex.-11, Part II at 2). The Agency disagrees with the MDNR on use of a $30Q_{10}$ instead of a $122Q_{10}$ for the reasons discussed in Section III.F (Ex. A-14b).

[67] P-Exs 1, 9 and 10.

3. If the TMDL is not completed, impose a summer-only TP limit if the discharge materially impacts algal growth in the stream; and

4. If material impact has not been demonstrated, freeze the TP loading for the summer months until the TMDL is complete.

On their face these may seem like reasonable suggestions, except for one major and overriding concern on the part of the Agency. That is, under these suggestions a TP limit is implemented only after a waterbody has become impaired, a TMDL is complete or pending, or where impacts in the receiving stream can be documented.

Excess nutrients, TP in particular, are having impacts on rivers and streams throughout the state (e.g., see Ex.PL-7 and Ex.PL-8). In the face of this mounting evidence, the Agency cannot fulfill its responsibility to protect surface waters from eutrophication by waiting until an impaired condition is manifested. Also, presently, rivers and streams are not being assessed for nutrient impairment because the Agency does not have nutrient standards (or criteria based on a narrative standard) for rivers and streams. The Agency is probably at least three years away from being ready to promulgate river and stream standards. Without a standard (or criterion) there are no assessments, no impaired waterbodies and no TMDLs for that pollutant. The nutrient TMDL for the lower Minnesota River is based on low dissolved oxygen, caused by excess nutrients. The Lake Pepin (Mississippi River) TMDL is based on exceedances of nutrient criteria, applicable because Lake Pepin is a natural lake. Otherwise, there are no pending nutrient-related TMDLs for rivers or streams**.** Also, once a waterbody is impaired due to excess nutrients, restoration is likely to be very expensive, and full recovery may not prove to be practical or even possible at any price. The Lake Pepin TMDL is providing the Agency with a large-scale "test case" for these issues, which includes substantial stakeholder input.

For waterbodies with a pending TMDL, a requirement that impacts must be demonstrated before a limit is applied may seem reasonable at first, but it is not. If a TMDL is pending, it means the waterbody is already impaired. A demonstration of further impacts from excess nutrients would require extensive biological and water quality monitoring over several years (data that may be collected as part of the TMDL). But by the time impacts can be demonstrated, the waterbody would be further degraded and it may be too late to reverse the negative trend.

89. The Agency is proposing to replace the original proposed chronic standard for acetochlor of 1.7 µg/L with a less stringent standard of 3.6 µg/L. The proposed acute standards (MS and FAV) do not change. The Agency explained this modification,

made at the request of the chemical manufacturers, corn growers, and others, in great detail. In small part, the Agency stated:

> Agency staff met with representatives from Monsanto and Dow AgroScience, the registrants for herbicides containing acetochlor, on August 28, 2007.[68] Monsanto and Dow AgroSciences make up the Acetochlor Registration Partnership for registration of acetochlor in the U.S.. At the August 28 meeting, Dr. Honegger outlined Monsanto's critique of the Agency's proposed plant-based chronic standard for acetochlor. She said that data was available for five species of algae and one macrophyte species that the Agency did not include when it developed its proposed standard. At the meeting and over the next week, Monsanto made the additional data available to the Agency (Attachments 6 to 12). At the hearing in Marshall on September 11, 2007 Monsanto's consultant, Dr. Jeffrey Giddings of Compliance Services International (CSI), presented a critique of the Agency's approach used to develop the plant-based standard. His report describes his analysis of the available plant data that resulted in a recommended alternative chronic standard of 4.3 µg/L (P-Ex.-6; full response is below).
>
> Others commented more generally on the proposed herbicide standards at the hearing in Marshall on September 11, 2007.
>
> Dr. Gustafson of Monsanto stated the importance of acetochlor as a preferred herbicide for corn growers in Minnesota and indicated that the standard was unnecessary because positive actions are being taken by the Minnesota Department of Agriculture (MDA) to implement voluntary best management practices to reduce runoff from farm fields (P-Ex.-3). Dr. Gustafson said that the proposed standard seems contradictory to the positive assessments coming out of EPA, and that adoption could bring immediate harm to Minnesota's corn growers, "all over the theoretical possibility that acetochlor might slow the growth of algae."
>
> The Agency, at the request of and with the full cooperation of MDA, is proposing a standard for acetochlor. We believe that having a standard in place for a pesticide that is applied (as approved by the federal and state registration processes) at the rate of two to three million pounds per year over large portions of the state is consistent with the Agency's responsibility to protect surface and ground waters from pollution by toxic chemicals. The Agency's proposed standard (and that of Monsanto's consultant as well) is aimed at protecting the integrity of the aquatic plant community as a whole, not just to prevent slower growth of algae (P-Ex.-3). The new information from EPA regarding acetochlor's human health impacts (Re., protection of drinking water and fish consumption) and its status as a possible carcinogen is included in our assessment. Human

[68] Dr. Joy Honegger, Monsanto; and Dr. Marvin Schultz, and Mr. Ted McKinney, Dow AgroSciences LLC.

health effects occur at concentrations well above acetochlor's ecological effects (SONAR-III, Table III-6 at 42).

The Agency believes that the adoption of the acetochlor standard, including the possibility of new impaired water listings and future herbicide TMDLs, is completely compatible with MDA's voluntary best management practices program already underway. A promulgated standard will give the Agency and MDA a scientifically sound yardstick with which to assess surface waters and identify watersheds where implementation of BMPs could head off further impairments and the more costly TMDL process. It is true, as Dr. Gustafson says (P-Ex.-3), an adopted standard and potential impairment listings may prompt a review of acetochlor's label recommendations and restrictions; in fact such discussions between the registrants and MDA have already taken place.

Curt Watson, President of Minnesota's Corn Growers Association expressed concern about the fast pace at which the Agency is pursuing an acetochlor standard and impairment listings. He said corn growers are willing to implement BMPs to address acetochlor detects (Tr. 9/11 at 53). Steve Commerford of the Soybean Grower's Association asked about submitting written comments (Tr. 9/11 at 70).

Paul Torkelson, Vice President of the Minnesota Farm Bureau and a representative on the Governor's Clean Water Council, reminded the Agency that it is pursuing a very serious and important undertaking and the consequences are real for farmers and others working and living in watersheds considered potentially impaired due to exceedances of the acetochlor standard (P-Ex.-7 and Tr. 9/11 at 65). Mr. Torkelson urged the Agency to carefully consider the information provided by Monsanto and their consultant (see below) so that any proposed standard is based on the best information available. He also emphasized the importance of using sound science to identify the true sources of herbicides to surface waters, including the evaluation of remedies, as part of the TMDL process. We believe Mr. Torkelson is quite correct about the significance of promulgating an acetochlor standard and the Agency takes this responsibility very seriously. We are also aware of the potential precedent-setting implications of these actions. Other states may be interested in what Minnesota does and EPA has already indicated an interest.

Ken Myers, a concerned citizen, told Ms. Preimesberger at the Marshall hearing that he supported adoption of the proposed water quality standards (herbicides, mercury and industrial chemicals), and he provided sources of information to the staff on risk assessment and chemical sensitivity among people (Tr. 9/11 at 69).

Richard Halterman, a biology teacher, supported adoption of herbicide standards and is also concerned about the contamination of drinking water and fish with chemicals. He expressed concern about the synergistic effects of combinations of chemicals with similar modes of toxic action plus the impacts of their metabolites (see response to MCEA below). He also expressed concern about the impacts of chemicals on human embryos and fetuses, concluding that ultimately our children are more important than economics (Tr. 9/11 at 56).

Mr. Patrick Moore, Executive Director of Clean Up the River Environment expressed his interest in enhancing fishing and recreation in the upper Minnesota River basin and supports the Agency's efforts to strengthen water quality standards in general (Tr. 9/11 at 71).

MCEA indicated that they support the proposed standards for both acetochlor and metolachlor, but also urged the Agency to adopt standards for the additional pesticides of interest to MDA, and to consider the cumulative or additive effects of herbicide mixtures in surface waters (Tr. 9/12 at 119; P-Ex.-11, Part V; note: the units at 1 should be µg/L, not µg/mL). The Agency is considering developing standards or criteria (values comparable to standards which are not promulgated) for additional pesticides. Also, in light of the Agency's work with acetochlor and metolachlor and based on our conversations with EPA staff, EPA has indicated a renewed interest in developing 304(a) criteria for more pesticides.

The Agency is aware of potential cumulative impacts from multiple herbicides plus degradates and considers these issues, particularly when proposed impairment listings are reviewed by professional judgment teams. For example, in its assessment of waterbodies for potential exceedances of the atrazine standard, the Agency combines the concentrations of degradates with that of the parent chemical in the assessment for exceedances of the human health-based standards.

B. Re-analysis of Plant Toxicity Data

As noted, Monsanto identified data for six species of plants that the Agency had not used in its original analysis. All six studies are published in the scientific literature. Monsanto also provided a published paper describing a statistical approach to evaluating plant toxicity data (Attachment 12). The Agency's search of the published literature and other sources of toxicity data is described in SONAR-III at 39. The Agency's search found two (plus a supporting paper describing methods) of the six studies identified by Monsanto (Junghans et al., 2003, Attachment 6 and Ma et al., 2003, Attachment 7), however, Agency staff inadvertently overlooked these studies in its review. We are perplexed as to why our initial search failed to find the other four papers (Attachments 8

to 11), except that our search ended in the fall of 2005 and some of the papers may not have been included in the ECOTOX database by that time. After receiving these studies we conducted another literature search (during this post-hearing comment period) and found no additional studies or unpublished data. The Agency appreciates that the Acetochlor Registration Partnership pointed these studies out to us in time to re-evaluate the data for the record.

The Agency reviewed the six additional studies provided by Monsanto and believes all six are acceptable. The Agency has misgivings about the study by Junghans et al, on *Scendesmus vacuolatus* **(**Attachment 6) because the concentrations of acetochlor to which the algae were exposed in the test were not reported. Also, information on temperature and light intensity at which the test was run, and information on controls, was missing. Junghans et al. cited the methods used by Faust et al. to culture the algae populations in the laboratory but did not cite test methods. The Agency's acceptance of this paper is based on the assumption that the test was run under the same temperature and light conditions at which the algae were cultured.

The Agency has carefully reviewed Dr. Giddings' report (P-Ex.-6). In general, we find Dr. Giddings' analysis to be very credible. Based on the new data and Dr. Giddings' analysis, the Agency is proposing a more lenient standard for acetochlor of 3.6 µg/L (see next Section).

90. The Agency has, through the SONAR, exhibits, oral testimony, Response, and Final Response demonstrated that the proposed amendments, including the proposed changes to rule language presented in its Response, are needed and reasonable.

Based on the foregoing Findings of Fact, the Administrative Law Judge makes the following:

CONCLUSIONS

1. The Agency gave proper notice in this matter.

2. The Agency has fulfilled the procedural requirements of Minn. Stat. § 14.14 and all other procedural requirements of law or rule.

3. The Agency has demonstrated its statutory authority to adopt the proposed rules, and has fulfilled all other substantive requirements of law or rule within the meaning of Minn. Stat. §§ 14.05, subd. 1; 14.15, subd. 3; and 14.50 (i) and (ii).

4. The Agency has demonstrated the need for and reasonableness of the proposed rules by an affirmative presentation of facts in the record within the meaning of Minn. Stat. §§ 14.14, subd. 4; and 14.50 (iii).

5. The additions and amendments to the proposed rules suggested by the Agency after publication of the proposed rules in the State Register are not substantially different from the proposed rules as published in the State Register within the meaning of Minn. Stat. § 14.05, subd. 2, and 14.15, subd. 3.

6. Any Findings that might properly be termed Conclusions and any Conclusions that might properly be termed Findings are hereby adopted as such.

7. A Finding or Conclusion of need and reasonableness with regard to any particular rule subsection does not preclude and should not discourage the Agency from further modification of the proposed rules based upon further examination of the public comments, provided that the rule finally adopted is based upon facts appearing in this rule hearing record.

RECOMMENDATION

IT IS HEREBY RECOMMENDED that the proposed rules, as modified by the Agency in its Response, be adopted.

Dated: November 16, 2007

_/s/ Steve M. Mihalchick_____
STEVE M. MIHALCHICK
Administrative Law Judge

Recorded: Transcript Prepared